UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/824,092	04/14/2004	Ajay Kumar	5681-72300	6152

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EXAMINER
NGUYEN, CINDY

ART UNIT	PAPER NUMBER
2161	

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

	Application No.	Applicant(s)
Office Action Summary	10/824,092	KUMAR, AJAY
	Examiner	Art Unit	
	Cindy Nguyen	2161	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on <u>02 July 2007</u>.

2a)☐ This action is **FINAL**.   2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) <u>1-39</u> is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) <u>1-39</u> is/are rejected.

7)☒ Claim(s) <u>9,10,22,23,35 and 36</u> is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on <u>14 April 2004</u> is/are: a)☒ accepted or b)☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a)☐ All   b)☐ Some * c)☐ None of:

      1.☐ Certified copies of the priority documents have been received.

      2.☐ Certified copies of the priority documents have been received in Application No. _____.

      3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)

2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3) ☐ Information Disclosure Statement(s) (PTO/SB/08)
    Paper No(s)/Mail Date _____.

4) ☐ Interview Summary (PTO-413)
    Paper No(s)/Mail Date. _____.

5) ☐ Notice of Informal Patent Application

6) ☐ Other: _____.

DETAILED ACTION

This is in response amendment filed 07/02/07.

Response to Arguments

Applicant's arguments have been considered but are moot in view of the new

ground(s) of rejection.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form

the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

> (e) the invention was described in (1) an application for patent, published under section 122(b), by another
> filed in the United States before the invention by the applicant for patent or (2) a patent granted on an
> application for patent by another filed in the United States before the invention by the applicant for patent,
> except that an international application filed under the treaty defined in section 351(a) shall have the effects
> for purposes of this subsection of an application filed in the United States only if the international application
> designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 1, 3, 14, 16, 27 and 29 are rejected under 35 U.S.C. 102(e) as being anticipated

by anticipated by Gerard et al. (US 6339782, hereafter Gerard).

Regarding claims 1, 14 and 27, Gerard discloses: a system, a method and a computer-

accessible storage medium, comprising: a processor, (110, fig. 1, and corresponding text,

Gerard); and

Memory (memory 130, fig. 1 and corresponding text, Gerard) coupled to the processor

and configured to store program instructions executable by the processor to implement a

class structure based data object enhancer configured to (i.e., when JVM executes a

program it takes the java bytecodes and interprets or converts them to machine code

instructions for the underlying hardware, and passes the machine code instructions to the CUP

for execution, col. 4, lines 46-44 , Gerard):

> input one or more classes (paragraphs 0030, Gerard);

> analyze the structure of the one or more classes to determine a persistence structure

for data of the one or more classes to be persisted (i.e., to modify the new java operator and its

corresponding new() bytecode, which create new object instances of the specified class, to

include parameters which specify whether or not the new object is to be persistent, if the new

object is to be persistent, new() operator should specify the storageplugin object that is to

create a persistent object..., see col. 9, lines 20-32, Gerard); and

> generate one or more enhanced classes corresponding to the one or more classes

such that the one or more classes are enhanced to persist the data to be persisted according

to the persistence structure (i.e., when the newobject(javaclass) command on the

storageplugin object is called it creates a new persistent object of the specified class, see col.

7, lines 17-20 and col. 10, lines 55-61, Gerard).

Regarding claims 3, 16, 29, all the limitations of this claim have been noted in the

rejection of claims 1, 14 and 27 above. In addition, Gerard discloses: wherein to analyze the

structure of the classes, the class structure based enhancer is configured to parse bytecode of

the one or more classes to determine class and field attributes (i.e., implement the preferred

embodiment is to modify the get(field() and putfield() bytecode, these bytecode respectively

get and put values of the corresponding data type from an object..., see col. 10, lines 20-31,

Gerard).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness

rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 2, 4-8, 15, 17-21, 28, 30-34, 11, 13, 24, 26, 37 and 39 are rejected under 35

U.S.C. 103(a) as being unpatentable over G Gerard et al. (US 6339782, hereafter Gerard) in

view of Calusinski (US 2005/0071342).

Regarding claims 2, 15 and 28, all the limitations of this claim have been noted in the

rejection of claims 1, 14 and 27 above. However, Gerard didn't disclose: wherein to analyze

the structure of the classes, the class structure based enhancer is configured to make one or

more Java reflection calls to the one or more classes. On the other hand, Calusinski

discloses: wherein to analyze the structure of the classes, the class structure based enhancer

is configured to make one or more Java reflection calls to one or more classes (i.e., class

name may be obtained by java reflection, for each java class, including the class from which

any java business object is instantiated, each java runtime environment maintains a reflection

class object that contains descriptive information about the class... see paragraph 0032,

Calusinski). Thus, at the time invention was made, it would have been obvious to a person of

ordinary skill in the art to include wherein to analyze the structure of the classes, the class

structure based enhancer is configured to make one or more Java reflection calls to the one or

more classes in the system of Gerard as taught by Calusinski. The motivation being to

provides classes and interfaces for obtaining reflective information about class and objects.

Regarding claims 4, 17 and 30, all the limitations of this claim have been noted in the

rejection of claims 1, 14 and 27 above. In addition, Gerard/Calusinski discloses: wherein the

class structure based enhancer is further configured to generate metadata that includes the

results of the analysis of the structure of the one or more classes (i.e., metadata describing the

data structure of a persistent data stores, see paragraph 0024, Calusinski). Thus, at the time

invention was made, it would have been obvious to a person of ordinary skill in the art to

include wherein to analyze the structure of the classes, the class structure based enhancer is

configured to make one or more Java reflection calls to the input classes in the system of

Gerard as taught by Calusinski. The motivation being to infer the persistent data structure from

metadata describing the persistent data structure, see paragraph 0009-0010, Calusinski.

Regarding claims 5, 18, 31, all the limitations of this claim have been noted in the

rejection of claims 4, 17 and 30 above. In addition, Gerard/Calusinski discloses: wherein the

generated metadata is output explicitly as a metadata file (i.e., see paragraph 0033,

Calusinski).

Regarding claims 6, 19 and 32, all the limitations of this claim have been noted in the

rejection of claims 5, 18, 31above. In addition, Gerard/Calusinski discloses: wherein the

metadata file is an extensible markup language (XML) file (i.e., see paragraph 0033,

Calusinski).

Regarding claims 7, 20 and 33, all the limitations of this claim have been noted in the rejection of claims 1, 14 and 27 above. In addition, Gerard/Calusinski discloses: wherein the persistence structure corresponds to the structure of the one or more classes (i.e., reflection classes in a JVM metadata is metadata describing the data structure of a persistent data store, see paragraph 0024, Calusinski).

Regarding claims 8, 21, 34, all the limitations of this claim have been noted in the rejection of claims 1, 14 and 27 above. In addition, Gerard/ Calusinski discloses wherein the persistence structure maps the data to be persisted to a single table in a database (i.e., simple mapping may be an algorithmically inferred one-to-one correspondence between fields in the business object and fields in the persistent data store , see paragraph 0062, lines 7-11, Calusinski).

Regarding claims 11, 24, 37, all the limitations of this claim have been noted in the rejection of claims 1, 14 and 27 above. In addition, Gerard/ Calusinski discloses wherein the rules applied by the class structure based enhancer include storing persistent fields of a given class in a table corresponding to that class in a database (i.e., metadata describing the data structure of a persistent data stores, ..., see paragraph 0024, Calusinski).

Regarding claims 13, 26, 39, all the limitations of this claim have been noted in the rejection of claims 1, 14 and 27 above. In addition, Gerard/ Calusinski discloses, wherein the class structure based enhancer is further configured to output the enhanced one or more

classes and a database schema for storing the data to be persisted in a persistent data store (see paragraph 0033-0034). Thus, at the time invention was made, it would have been obvious to a person of ordinary skill in the art to include wherein the class structure based enhancer is further configured to output the enhanced one or more classes and a database schema for storing the data to be persisted in a persistent data store in the system of Gerard as taught by Calusinski. The motivation being to enable the system performs the tasks of storing and retrieving objects from the database (0046, Calusinski).

Claims 12, 25 and 38 are rejected under 35 U.S.C. 103(a) as being unpatentable over G Gerard et al. (US 6339782, hereafter Gerard) in view of Chan et al. (US 6470494, hereafter Chan).

Regarding claims 12, 25 and 38, all the limitations of this claim have been noted in the rejection of claims 1, 14 and 27 above. However, Gerard didn't discloses: wherein the one or more classes are comprised in a Java Archive (JAR) file. On the other hand, Chan discloses: wherein the one or more classes are comprised in a Java Archive (JAR) file (col. 5, lines 23-24, Chan). Thus, at the time invention was made, it would have been obvious to a person of ordinary skill in the art to include wherein the one or more classes are comprised in a Java Archive (JAR) file in the system of Gerard as taught by Chan. The motivation being to creating jar files, flexibility in use and design of such programs would be enhanced if the entry name of a class file and other file to be placed in jar archive could be assigned a name that is independent of wherein the file is physically located on a file system.

Allowable Subject Matter

Claims 9, 22 and 35 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The following is an examiner's statement of reasons for allowance: the prior art of record and that encountered while searching for the claimed invention fails to anticipate and/or suggest: wherein to determine a persistence structure for the data of the one or more classes the class structure based enhancer is configured to apply one or more rules to the results of Java reflection calls to or byte code parsing of the one or more input class as recited in claims 9, 22 and 35.

The dependent claims 10, 23 and 36, being further limiting to claims 9, 22 and 35 definite and fully enable by the specification are also objected.
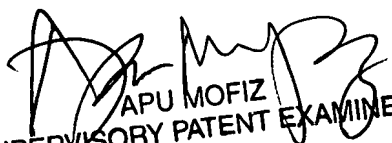
Contact information

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Cindy Nguyen whose telephone number is 571-272-4025. The examiner can normally be reached on 8:30-5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's

supervisor, Apu A. Mofiz can be reached on 571-272-4080. The fax phone number for

the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the

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USPTO Customer Service Representative or access to the automated information

system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Cindy Nguyen

APU MOFIZ
SUPERVISORY PATENT EXAMINER